CLAIM AMENDMENTS

1. (Currently Amended) A semiconductor laser device comprising:

~~a semiconductor~~an InP substrate of a first conductivity type;

a first cladding layer of the first conductivity type disposed on the ~~semiconductor~~ InP substrate;

an active layer including a multiple quantum well structure disposed on the first cladding layer and having uniformly flat upper and lower boundary surfaces in an optical waveguide direction;

a second cladding layer of a second conductivity type disposed on the active layer; and

a diffraction grating layer having a phase-shifted structure in the optical waveguide direction, between the active layer and one of the first and second cladding layers, wherein

the diffraction grating layer has a length L in the optical waveguide direction ~~L ≤~~ not exceeding 260 μm;

~~a~~ mean coupling factor κ of ~~a~~ the diffraction grating layer is ~~κ ≥~~ at least 150 cm^{-1}; and

~~κL satisfies~~ $5.6 > \kappa L > 3.0$.

2. (Previously Amended) The semiconductor laser device according to claim 1, wherein power threshold gain αth per unit length in a principal axial mode satisfies $7\ cm^{-1} \leq \alpha th \leq 51\ cm^{-1}$.

3. (Previously Amended) The semiconductor laser device according to claim 1, further comprising a heavily-doped p-type region having a carrier concentration of $10^{18}\ cm^{-3}$ in at least a portion of a p-type layer proximate at least a portion of the active layer.

4. (Previously Amended) The semiconductor laser device according to claim 2, further comprising a heavily-doped p-type region having a carrier concentration of $10^{18}\ cm^{-3}$ in at least a portion of a p-type layer proximate at least a portion of the active layer.

5. (Previously Amended) The semiconductor laser device according to claim 1, wherein

$\lambda p - 100 \leq \lambda g \leq \lambda p + 100$,

where a composition wavelength of the diffraction grating layer is λg (nm) and an oscillation wavelength is λp (nm).

6. (Previously Amended) The semiconductor laser device according to claim 2, wherein

$\lambda p - 100 \leq \lambda g \leq \lambda p + 100$,

where a composition wavelength of the diffraction grating layer is λg (nm) and an oscillation wavelength is λp (nm).

7. (Previously Amended) The semiconductor laser device according to claim 3, wherein

$\lambda p - 100 \leq \lambda g \leq \lambda p + 100$,

where a composition wavelength of the diffraction grating layer is λg (nm) and an oscillation wavelength is λp (nm).

8. (Previously Amended) The semiconductor laser device according to claim 4, wherein

$\lambda p - 100 \leq \lambda g \leq \lambda p + 100$,

where a composition wavelength of the diffraction grating layer is λg (nm) and an oscillation wavelength is λp (nm).

9. (Previously Amended) The semiconductor laser device according to claim 1, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

10. (Previously Amended) The semiconductor laser device according to claim 2, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

11. (Previously Amended) The semiconductor laser device according to claim 3, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

12. (Previously Amended) The semiconductor laser device according to claim 4, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

13. (Previously Amended) The semiconductor laser device according to claim 5, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

14. (Previously Amended) The semiconductor laser device according to claim 6, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

15. (Previously Amended) The semiconductor laser device according to claim 7, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.

16. (Previously Amended) The semiconductor laser device according to claim 8, wherein a highly-refractive portion of the diffraction grating layer has a length longer than that of a low-refractive portion of the diffraction grating layer in the optical waveguide direction.